INEEL PUBLIC MEETING ON PROPOSED CLEANUP PLAN FOR IDAHO CHEMICAL PROCESSING PLANT (INTEC)

TWIN FALLS, IDAHO

Tuesday, November 17, 1998

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PUBLIC COMMENT

See Page 57, Line 11

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TWIN FALLS, IDAHO, TUESDAY, NOVEMBER 17, 1998

MR. SIMPSON: Thank you for coming tonight. I'm Erik Simpson. I introduced myself to you earlier. I'm the community relations plan coordinator for the INEEL Environmental Restoration Program.

Really, we're here tonight to talk about the Waste Area Group 3 Remedial Investigation and Feasibility Study and the proposed plan, specifically. And just to give you some background, this is the fifth facility-wide investigation that we've completed out at the lab, and we have four more to go under our Federal Facility Agreement and Consent Order.

We're here tonight because DOE had thought, since the aquifers impacted due to operations at the Idaho Nuclear Technology and Engineering Center, that people in the Magic Valley would want to be involved during the comment session.

So, really, rather than doing a formal presentation, I'll just leave it up to you guys as to how you would like us to present the information, but it's really your meeting at this

point. But we will have an official comment session for the record where Nancy will record your comments verbatim.

DR. RICKARDS: I had heard of a 26-acre sort of reburial site, and the questions I generally always ask are: What are the quantity of radionuclides, and plutonium-239 being the favorite -- but I really need to see them all -- that would be reburied? And, then, how widespread is the contamination in the plumage? Basically, is there going to be an attempt to retrieve and contain that material, or is it just going to be monitored and assumed to be below federal standards, eventually?

MR. SIMPSON: I got ahead of myself. I should have introduced the project managers with DOE. This is Talley Jenkins with the Division of Environmental Quality. For the state of Idaho is Scott Reno. And with the EPA is Matt Wilkening. He's here in Wayne Pierre's absence. Wayne had a prior commitment.

MR. RENO: The criteria for what will go into the proposed soil repository and the waste acceptance criteria has not yet been developed. It goes hand-in-hand with the design documentation,

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that there will be design constraints placed upon the facility and that is, that we want it to have a fairly robust acceptance criteria. That is, that we'll be able to take soils that may be contaminated with some RCRA constituents in the facility.

So we want it to meet minimum technology requirements of the RCRA, subtitle C, landfill, which is double liners, leachate collection systems. And the facility will need to be designed so that no leachable concentrations from the facility over its design life will reach the aquifer in concentrations that would result in an incremental increase in the risk in the aquifer, which it would be a 1 in 10,000 risk level, hazard index of one. And it would have to meet drinking water MCLs as well, if more conservative, which they generally are.

DR. RICKARDS: But in terms of quantities going in?

MR. RENO: Well, the inventory of what is going in is, there is some uncertainties in the soil volume that we have. We think from the Chem Plant that we're going to have on the order of 82,000 cubic yards. But once we start

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digging -- I mean, there it's invariable, you find things a little bit different when you do an excavation and removal remedy that we may find we have a little bit less than that. We may find that we have more.

We have generalized ideas on the concentrations of the contaminants that are present there. The primary risk drivers at the Chem Plant, cesium-137 with surface pathways. We have some sites down by the 603 facility that have europium isotopes that cause a problem down there in the 603 building. And for the groundwater pathways, it's primarily strontium-90 that's our risk driver. We know we have some longer-term risks from transuranics in the Tank Farm area. That's not being addressed under this Record of Decision. Those soils would not be candidates for disposal at this facility.

DR. RICKARDS: Is that part of the cleanup, though? I thought the Tank Farms were part of the cleanup.

MR. JENKINS: What we're talking about, as far as the Tank Farm, is that, at this point, we're recommending an interim action to eliminate the driving force to water, try to turn off the

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infiltration. But at the same time, we're going to actually conduct another study to try to find out how fast the plutonium is moving, how much of it is there, get a better handle on the quantity and concentrations. And that's what we're calling the Tank Farm investigation, OU-3-14. And Scott is right. At this point, that soil needs to be considered for the repository.

DR. RICKARDS: Is there any plutonium in what's going in it?

MR. JENKINS: There's trace quantities, but there's not "TRU" levels.

MR. RENO: Yeah. There's trace quantities of plutonium that would be going in.

MR. JENKINS: But there's not "TRU" levels.

DR. RICKARDS: So are you going to follow the 100 nanocuries standard?

MR. JENKINS: It would be less than 10.

MR. RICKARDS: Less than 10, but in terms of quantity, like how many billions of particles? You don't have an estimate?

MR. JENKINS: We don't have an estimate.

DR. RICKARDS: Even gramage or curieage?

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MR. JENKINS: No. I would have to go back and actually pull the data up to see what each site has.

AUDIENCE MEMBER: I know that we're not dealing with final solutions in the Tank Farm, but if that involved digging up soil, which I don't think is very likely, that soil would not go into the soil repository, this one here?

MR. JENKINS: At this point, we're not considering it candidate soils. And let's say that one of the alternatives evaluated would be to dig it up. We do know that there's places within the Tank Farms, the soils in there did have quantities or concentrations of actinides, plutonium in particular that are over the 100 nanocuries stuff, so it can't go there anyway. It would have to go to WIPP.

But stuff less than 10, it depends on what our criteria becomes. And the criteria is not driven by the Tank Farm. The criteria is to be mainly driven by protection of the aquifer. So we're basically going to have to go back, calculate what an acceptable source mass, or, if you want to think of it that way, would be acceptable within the repository.

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DR. RICKARDS: The thing on the situation was legally, you could take less than 100 nanocuries transuranics from the Tank Farm, putting in this official RCRA endorsed low-level dump; right?

MR. JENKINS: RCRA compliant.

DR. RICKARDS: I mean, it's real legal to just sort of postponing that decision?

MR. JENKINS: We could take the less than 100 if the concentrations from that material -- if it leaked -- leached to the aquifer -- did not present an unacceptable risk.

DR. RICKARDS: I agree with what you're saying. I'm just pointing out that the official dump you're opening legally can take the stuff from the Tank Farm, mix it with cement or whatever the grounding procedure usually is and do that.

But the alternative that I want always studied is the above-ground containment. Basically, I want you to include in your impact statement and scoping studies the Nevada study that came out last year on the transportation of plutonium into the water supply. The actual individual doses of plutonium if inhaled, resuspended, pumped up, integrated, and inhaled. I

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think, if you study it correctly, you will see that containment above ground in barrels not only provides jobs for the INEEL, but it is the total best way to contain it. It seems to me you're always in these clean-up projects delaying the time's use of the 240,000 plutonium by legally putting it in dumps. And that's why I have been trying to ban the reburial of plutonium. But you, literally, are, with this project, opening a legal dump for plutonium.

MR. RENO: Just a quick question, I guess. You know, we have a lot of soils at very low concentrations of plutonium isotopes, well less than the nanocurie range, down in the picocurie range. Is there a threshold amount that, if we got some cesium, strontium contaminated soils, just to clarify, that you think might be an acceptable --

DR. RICKARDS: A microscopic view of it, a small amount, trace amount of cesium would be reasonable to be buried. But what I have been asking from the beginning of the programmatic impact statements on waste management at the scoping end is to quantify the total end result of what you reburied if you approach everything at this 10 nanocurie reburial rate, or the legal

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100 nanocurie reburial rate. And the Pit 9 Record of Decision, they put into the one-acre pit a 10 nanocurie concentration and estimated 3 to 4 pounds for the plutonium, not the soil, but plutonium itself, which is literally millions, if not billions of particles in each pound right back into one pit. And now you're talking about a 26 acre, less than 100 nanocurie of plutonium pit, and that's where, to me, the whole goal of the EPA law is to study the big picture first. And when you open the 26-acre plutonium dump, low level as it may be, it is better in the long run to simply contain this material in barrels, at this point they estimate 400 years, at which point you can rebarrel them. It is cheaper. It just takes so little inspection to keep this stuff above ground. What I think you-all are is in denial of that eventual end point. You are systematically looking for closure on these cleanup projects as opposed to admitting that we have to contain this material above ground.

MR. RENO: Okay. Comment accepted.

I am curious, though, maximum concentration of plutonium isotopes that is in the detected concentration in these 82,000 yards that

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we're proposing for burial in the repository, do we have that off the top of our head? I think we are well below the nanocurie range for all of these 82,000 yards --

DR. RICKARDS: That's actually what I'm asking you, for the total quantity. Are we talking about a quadrillion of plutonium particles or are we talking about 10 plutonium particles?

MR. RENO: The answer, again, is not the one you want. We don't have that number, but we are seeing that the design criteria -- we could get that number. But the design criteria would be to a risk-based standard. And the drinking water MCL is 15 picocuries per liter, which by the time you incorporate the daughter products, 239 is about seven-and-a-half picocuries per liter, and then the daughters would take it to 15 picocuries per liter. So that would be our founding criteria.

DR. RICKARDS: This, to me, is the whole problem with piecemealing the whole situation. And even in the big picture, if every radionuclide leaked that was there, it would meet federal standards because the aquifer is so large. And the big picture is that's why they view INEEL as the perfect place to have a 200-acre plutonium dump

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that they talk about is their eventual goal.
Literally, our water supply is large, but the medical view of radiation is to -- the less human-added exposure the better, and with zero being the safest limit. And we have a chance to contain all this material, and yet you're going through calculations you know will allow you to rebury it. That's my problem with the whole cleanup. You actually let it leak and it still meets your standards. That's why mixing it with cement is acceptable to you and putting it over the water supply is acceptable to you.
INEEL STAFF: I might add that not everybody would agree that things up above ground is a safer configuration. It's subject to fire, floods, personnel exposure doing inspections. So if you integrated exposure over time, it's going to be much greater than that which is buried, and they have no exposure pathways.
DR. RICKARDS: But they actually have never done those calculations. In the Pit 9 Record of Decision, they make that statement. And they say that storing it above ground would pose a radiological risk to the workers' community and the environment. When I asked them to produce those

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risk assessments, they admitted in writing that they had never done them.
Once again, they're dismissing the best alternative here verbally and in writing and in the records for calculations they have never done. These folks are supposed to be the waste management experts, and now they're saying there is such risk to managing these wastes that we can't keep them above ground.
AUDIENCE MEMBER: No, I didn't say that, Peter. What I said was that the risk would be greater if it's above ground.
DR. RICKARDS: That there is a great risk to that, greater risk to that.
INEEL STAFF: Above ground?
DR. RICKARDS: Above ground. And you-all are supposed to be the waste land experts. I'm saying that's what are you saying. You've never documented it.
You're saying I misrepresented you. That's why -- agreeing with you now. But what you are saying is there's a greater risk to storing it above ground. And I'm saying you, in writing, have said that, but you have, in writing, admitted you never did the risk assessment. And it

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contradicts -- it contradicts what your speech teams say, that you are the waste management experts and we can bring in high-level fuel rods from around the world indefinitely with no Yucca Mountain open or potentially open and store them indefinitely here. And, yet, you just got through saying that there is a greater risk to storing above ground. And I'm asking you to document it.
INEEL STAFF: Well, those are two different things. The fact that it's greater doesn't mean we can't manage it. But we still -- we've got tremendous years of experience there. We have the controls to do that. But when you say, "Which poses the greatest risk?" then, whether the Pit 9 people have done calculations or not, they could be done if many more potential accidents that can happen, things when they are above ground than they are when they are 10 feet under ground. And if you want to worry about inhalation risk from plutonium, a fire would be -- take Rocky Flats. There is nothing under ground that would compare to that.
DR. RICKARDS: But in the new RCRA buildings are there not good fire controls?
AUDIENCE MEMBER: There are, and we take

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great pains to do that, but there is still that potential.
AUDIENCE MEMBER: So earth and burn.
MR. SIMPSON: David, I know you had some issues that you wanted to discuss, some questions.
MR. KIPPING: Sure. On Group 1 on the Tank Farm, it's quite clearly stated that what is proposed is the interim solution that for about the next six years until -- until, I guess, the decision will be made in 2004. And so we're talking about something being done in the next six years, although the facility will be operational at least until 2015. It seems to me that the interim solution of trying to minimize the water contamination seems like a reasonable approach.
The two things I'm concerned about is, number one, the Tank Farm is by far the largest amount of contamination, the biggest problem, and it deserves a very, very careful look. And so I want to make sure that there is an environmental impact statement prepared, I think, which is a little more extensive, deeper document than these two set of plans, and have plenty of chances to take a look at that. That is the major contamination of all of INEEL. So very

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interesting, the schedule, apparently, that is not going to happen for a number of years.

The second concern is the interim solution is, in essence, capping it, putting some dirt on it, bury it. That's the first step. Question: Is that going to be the first step towards a defacto cap and fill approach? It's not at all clear that that's the right thing to do for the Tank Farm and to leave the soil in place, capped over. Peter pointed out there are a lot of problems with that.

So I'm very concerned that the interim solution will turn out, migrate into the final solution. You made it very, very clear that this is merely an interim solution and does not in any way affect whatever the final solution will be made.

MR. JENKINS: I'll take that one. The first thing was, you talked about more in-depth, detailed analysis than this. What the proposed plan, the 54 pages or whatever it is, is really a summary of that document sitting over there.

MR. KIPPING: 3,000 pages.

MR. JENKINS: Is that what it is? It's a lot. That actually is an evaluation of all the

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sites, the 95 sites that we talked about in this investigation. Currently, there is an EIS going on to try to determine what they're going to do with the waste in the tanks, how they're going to treat the waste. I think there is notes in the back there.

MR. KIPPING: Where are we in that process right now?

MR. ROSE: The draft is under way. The draft will be issued in April for public review and comment. And the final schedule will be out in November next year.

AUDIENCE MEMBER: The draft in April?

MR. LOCKIE: The draft in April.

AUDIENCE MEMBER: But that's the contents of the tanks, what to do with them, calcining them --

MR. JENKINS: Under that EIS, what we're looking at is how to treat the waste, what to do with the tanks, how to close down facilities, kind of looking at the whole of the Chem Plant for a closure.

And one of the big issues that we had, as far as trying to make a final decision on the Tank Farm, was we didn't know what was going to be

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left behind. So what our intent is, is to collect field data, continue our investigations that it talks about, that we would make this decision in around 2004.

Leading up to that, we would take whatever comes out of the decisions on the EIS, plus whatever field data we get and make an integrative decision, and we would look at anything from no action, capping in place to a full retrieval of the soils and disposal. Some of it could end up going to WIPP, for instance. Some of it could end up at various other locations.

AUDIENCE MEMBER: I'm a little confused. EIS on the Tank Farm is coming out in the draft in April of '99?

MR. JENKINS: The EIS is, yes.

AUDIENCE MEMBER: What is the title of this EIS?

MR. LOCKIE: High-level waste and facilities disposition.

AUDIENCE MEMBER: You mentioned another date like in 2004.

MR. JENKINS: 2004 is another CERCLA investigation, another RI/FS.

AUDIENCE MEMBER: That is an

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investigation of what?

MR. JENKINS: The Tank Farm soils.

AUDIENCE MEMBER: This is my confusion. The EIS coming out, that will deal with the Tank Farm?

MR. JENKINS: It will deal with the tanks, the contents of the tanks and how to close the structure, the tanks and the concrete structure. It's not making a decision on what to do with the soils.

AUDIENCE MEMBER: To deal with the Tank Farm in it's entirety is a two-step process?

MR. JENKINS: Yes.

AUDIENCE MEMBER: Step No. 1 is to deal with the contents of the tanks and the tanks' plumbing, et cetera, and then once you decide what to do with that, then you deal with the soils?

MR. JENKINS: Then we deal with the soils on top of that.

MR. RENO: The plans need to be integrated.

MR. JENKINS: Now, as far as answering the second part of your question about what we're proposing as to seal the surface or whatever, for lack of a better term, get the water off of there.

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Yes, that's what we're proposing for the short term. In all likelihood, what we're talking about is continuing that until we can take a final action on the Tank Farm. But that's not going to prevent us from -- if the decision is made to dig it up, it won't prevent that. We would give it an objective evaluation.

MR. RAUNIG: Talley, could you explain, give them a little more background because I don't think he realizes the amount of investigation that's already gone on in the Tank Farm, let him know that we have performed risk assessments. We have done several studies, and there has been a lot of thought put into it already.

MR. JENKINS: Right. As Dennis said, we have done several investigations within the Tank Farm. But we took the data we had previously -- for this investigation, we took previous data plus used process knowledge, knowing how big the releases were and what concentrations were in the liquids and calculated risk based off of that. But one of the issues we had was how fast was plutonium moving, how fast was strontium moving, what do we need to do, either keep it in

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the soils or dig it up or stabilize it, for instance.

We didn't have a real good handle on the range of costs or the impacts, I guess, is the best way to say it, in that a lot of -- we didn't know where the EIS was headed, and we still don't know what the answer there is. We don't know what the decision is. So we're really trying to wait until they make a decision so that we can add that plus the soils together to make a final decision.

DR. RICKARDS: I take any bets that they put cement into the tanks, and leave it there. Just a guess.

MR. RENO: Well, a separations alternative is one of the alternatives being evaluated or is going to be evaluated in the EIS.

DR. RICKARDS: Is the mixing in place and leaving it there an alternative that's being assessed?

MR. ROSE: Leaving some source term behind in the tanks is an alternative, all the way from between that and actually ripping the tanks out of the ground. So that's the tough balancing act. If a decision is made on how much source term to leave behind in the tanks in the facilities,

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that has to be added in with what's left behind in the soils, if anything. Which part do you get a greater share?

MR. JENKINS: For instance -- and this is purely hypothetical. For instance, if we were to leave something behind in the tanks that has been grouted up, it may drive us to additional remediation on the soils, either an excavation or a stabilization in place such that the total impact to the aquifer from both pieces still is not unacceptable.

MR. RAUNIG: Keith, when you talk about leaving things in place, you're not talking about leaving the liquid in the tank. You're talking about emptying the tank, rinsing the tank, then whatever residual sediments might be listed.

MR. ROSE: As the closure plans are worked out on those tanks, you can go anywhere from leaving some source term behind to doing a risk base type of closure versus completely cleaning everything out of the tank. And, of course, if the decision is made to leave something behind, that eats up part of the amount of source term that could be left behind in the soil and still balance out a risk base.

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MR. NITSCHKE: Not necessarily. The release rates may not coincide in time so they may not be directly added -- we would have to check.

MR. ROSE: A cumulative of.

AUDIENCE MEMBER: If you look at Item 7 on the tank, I mean, I think that gives us a flavor of the possibilities. It's basically the same problem.

AUDIENCE MEMBER: What page is that?

AUDIENCE MEMBER: It's Group No. 7. It's a tank. It's on page 43. I think it's not really fruitful to discuss what to do with the Tank Farm and the final solution. That's what EIS is about. My concern is that that EIS happened and we're not to gain --

MR. JENKINS: And that's the whole intent, is not to come up with a prejudiced decision.

AUDIENCE MEMBER: That will be dealt with in the two-step process.

MR. RENO: We will be back out for public comment under review once we completed the RI/FS and prepared a proposed plan as to what to do with those soils for final solution.

DR. RICKARDS: Are they going to cap

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around the Tank Farm, basically?
MR. JAMES: What we're proposing? We're required to reduce the infiltration by 80 percent. I don't think we should prejudice the remedial design to cap or cover. The real intent is to reduce the infiltration and to decrease the driving force on escaped contaminants in the soil in that vicinity in the Tank Farms.
DR. RICKARDS: And that's 80 percent reduction of rainfall?
MR. JAMES: Rainfall and snowmelt, runoff.
DR. RICKARDS: Is the Tank Farm itself the source of most of the liquid coming up?
MR. JAMES: The Tank Farm itself is not particularly the source of liquid. The liquids come from the perc ponds, the various contributions. Scott probably knows the most about the distribution of liquids.
DR. RICKARDS: I thought the Tank Farms were leaking some.
MR. RENO: There have been leaks from the piping from the valve boxes.
DR. RICKARDS: Are they all sealed now?
MR. RENO: We're not aware of any

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ongoing releases. If there were, we would be there trying to stop them.
MR. JAMES: We're not aware of any leaks in the tanks either, are we?
MR. ROSE: No.
MR. JAMES: The presumption is if the tanks have a leak, it's the piping.
AUDIENCE MEMBER: We've had some past leaks and built up a body of contaminants in those soils.
AUDIENCE MEMBER: How did you find out about those leaks if they were underground?
MR. JENKINS: For instance, you would transfer so many gallons from one building, and it never arrived, or transferring liquid from one tank to another, and it didn't arrive.
MR. JAMES: Sometimes alarms go off.
MR. RAUNIG: The value locks, you know, there is always some alarm.
MR. RENO: All those lines were upgraded under the NON consent order a few years ago. So they are all double contained, RCRA compliant lined. The tanks themselves are not.
AUDIENCE MEMBER: The tanks are not in vaults? I thought they were.

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MR. RENO: They are in vaults, but they're not RCRA compliant.
Anyway, in the course of operations in the Tank Farm, the upgrades, other releases have been identified there. We think there are, in total, about 25,000 gallons of liquids have been released in the Tank Farm area from all the various releases that we've accounted for.
AUDIENCE MEMBER: Since when?
MR. LOCKIE: The '50s, when they started processing. There have been two major spills historically. We don't want to leave an impression they were leaking frequently out there. We haven't had leaks in the lines for years and years and years.
MR. JAMES: It's most recent in the RI/BRA and different operations. It's still a pretty good record.
MR. JENKINS: For instance, the biggest one that we've had was a 13,000-gallon spill in, I think, October or November of -- late '72, I think.
MR. LOCKIE: It was late '70s --
MR. JENKINS: Either '72 or '74. And then the other large one was about 3600 gallons that basically was from -- over a 21-year period

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starting in about '52 or '54 and ending in around '72.
MR. ROSE: The way those spills have been -- the source term, I believe, has been found out to be more specific as we did this major high-level-waste Tank Farm upgrade project. Of course, you remove a lot of the soils and you find hot spots and you quantify those source terms.
MR. RAUNING: It's also kind of amazing if you look back at some of the current reports over the years. These people didn't take these releases lightly. They were investigated thoroughly. They were thorough in documentation when applicable, and they could get into it. They cleaned up the soil at the time. They removed it. They put it in a contained area and removed it from the personnel and placed it an area where you could keep an eye on it and make sure that people and animals wouldn't get to it. And they also calculated the source terms.
MR. RENO: If I could, I want to mention one more thing. I heard mentioned a couple times an indication that maybe you might be looking for an EIS on these soils in the future. The CERCLA process with spills are equivalent to the NEPA

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process.
There will be a new Remedial Investigation and Feasibility Study. That will go into an administrative record. It will be available for public review. We'll issue a proposed plan with a preferred alternative, and then there will be an opportunity for public comment that occurs in conjunction with the CERCLA process.
MR. JAMES: We discussed that during the informal part of the meeting. Is it true that there is no longer any controversy about CERCLA being the functional equivalent of NEPA? Because EPA is really the subject matter expert in that. There's no longer any controversy, is there, Matt?
MR. WILKENING: Not from Superfund's point of view. We've always considered ourselves to be an RI/FS, to be functionally equivalent to a NEPA documentation of an EIS.
AUDIENCE MEMBER: So there will be two -- the available document and then the one from later, which will be different formats for different bureaucratic reasons but are formal public documents that deal --
MR. WILKENING: Yes.

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AUDIENCE MEMBER: One other question on the Tank Farm. Currently, the waste in the Tank Farm is being run through the calciner and EPA has its own problems in terms of things. Will the EIS deal with the calciner? Where does the calciner fit in? Where does it fit in?
MR. LOCKIE: The high-level waste, the EIS, evaluates a range of alternatives to process the remaining liquid in tanks. Some of those alternatives include calcination, but some don't.
AUDIENCE MEMBER: So the April EIS, one of the alternatives will be use the calciner, and there are the problems with the calcine.
And another alternative might be not to calcine, which implies the calcine can be torn down.
MR. LOCKIE: Correct. And that process, again, is due to wrap up -- the final EIS distribution in November of '99 and a Record of Decision soon after that. We're currently under constraint order to make a -- for the department to make a decision by June of 2000 whether to operate or to close the calciner unit. This chart just shows some of the range of alternatives that will be included in the EIS. Again, some include

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calcination; some do not.
AUDIENCE MEMBER: The calciner, I wouldn't put a lot of money in it.
MR. LOCKIE: It certainly has some difficulties if we permit it in the future.
AUDIENCE MEMBER: I'm done with my thoughts and comments and questions on the Tank Farm.
DR. RICKARDS: I was just curious, the soils under the building, that's sort of totally different from the Tank Farm situation. And then quantity-wise, I mean, it just seems like you're not going to excavate those because the Chem Plant is there to stay, it seems. And quantity-wise do we have any quantity of what those materials amount to? Are you going to look at stabilizing them, or what are you looking at?
MR. JENKINS: We have four sites under the buildings group. The first one is, basically, under the 603 complex on the dry side. That was an old French drain or dry well where basin and recirculation water was disposed of periodically. It operated from like '57 to '66, I think, somewhere in that time frame.
Another one -- we have two under the 604

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with the PEW system. One was where we found liquid underneath the steel liner in one of the hot cells, and it may or may not have leaked to the environment. We assessed it as if it had.
And then when they were doing a life safety upgrade, putting a fire exit underneath the 604, kind of a tunnel type thing, they dug through some contaminated soil there. Then we have a release under 601. That was basically a steel line that corroded away, and it transferred acidic solutions. We have a pretty good handle. We know about roughly 550 curies where it leaked to the environment from that release.
In the case of what to do with them, this is one of the issues -- this is one of the issues that's kind of really linked to the EIS. We don't know what D&D -- which, and the facility disposition part of the EIS -- we don't know what the decision will be to do with those three buildings.
So, really, what we're talking about is a deferred action. And the facility disposition stuff could be anywhere from complete removal of the building to entomb it in place. I tomb it, into concrete, for lack of a better analogy. What

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we looked at was three alternatives. No action, again, for comparison. But we looked at placing a cap or containment structure, multi-layered cap over the release site following D&D if the building is left behind.

And Alternative 3 is really Alternative 2, if the building stays in place, or if the building is removed, we would excavate the soils and dispose of them at the repository if it's constructed.

MR. RENO: Or another suitable facility, if it's not constructed.

DR. RICKARDS: But right now we're using the Chem Plant to store all the fuel there, aren't we?

MR. JENKINS: Yes.

MR. LOCKIE: That 603, you mean?

DR. RICKARDS: Yeah.

MR. LOCKIE: The fuel is being transferred out of 603 to a newer fuel storage.

MR. JENKINS: This is the dry side, though, Keith.

MR. LOCKIE: Oh, the dry -- I'm sorry.

DR. RICKARDS: So you're talking about sectioning part of the building from D&D, then?

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MR. RAUNING: That is one of the forthcoming. Those basins are going to be shut down and the fuel has been -- as you're probably aware, going to be transferred out.

DR. RICKARDS: I guess I really don't know, where is the dry storage taking place?

MR. RENO: It's on the west side of the 603 building. There is a graphite fuel storage facility there. It's indoors.

This is our 603 building and the three storage pools are here (indicating) and go north like this. This structure that comes out here to the west is the Graphite Fuel Storage Facility.

MR. RAUNING: You can see the slight difference in the shading.

MR. JENKINS: You might point out where the other ones are, too, the other locations for dry storage.

MR. RAUNING: This is the 749 fuel storage area. And those are concrete-lined steel silos in the ground. And this is the FAST Facility, and that's a basin storage area and then the product storage of uranium.

MR. JENKINS: You might want to point out where they're building the new --

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MR. RAUNING: Your point about above-ground monitor and retrieval storage, that's what they are doing with the Three Mile Island fuel. And that facility has been a well-engineered concrete pad and then highly rigorous concrete containers to put them in, and that is in this area right here (indicating).

AUDIENCE MEMBER: Above ground?

MR. RAUNING: Above ground, all above ground.

MR. RENO: That fuel is supposed to be ready for shipment out of state by 2035 under the settlement agreement, all that fuel.

MR. RAUNING: Little silos that you can load and unload easily.

DR. RICKARDS: I guess I just want to stress for the scoping, again, to quantify -- I mean, the list goes to plutonium-239 and through the whole gamut, there, of the soil under the building group. I was a little confused there, but it does look -- since you're moving the stuff out of the wet area, so to speak, that you couldn't actually go down and excavate the soil. Is that being studied?

MR. JENKINS: Depending upon what the

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decision to do with building is. If the decision made under the EIS is to take the building away, we dig up the soil. But we don't know what the decision is going to be made.

In the case of Keith, he is really doing the staff work, the analysis -- or is involved in the analysis. The actual decision on what will be done with the waste and what will be done with the buildings may be on plutonium.

MR. RENO: We will close them as a landfill. If the D&D program, if they employed it on itself and close it in place and grouted up.

Those decisions have not been made. The state has some involvement in what is acceptable to us and a lot of these facilities, the RCRA status facilities in particular, we have tremendous say over how those closures may or may not occur.

And in the event that there needs to be a clean closure at the interim status facilities, these facilities need to be completely dismantled and taken to a disposal facility somewhere else, and if those are exposed, we will excavate them and remove them.

Over the interim, we believe that the facilities themselves are providing the functional

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equivalent -- the word, again, but of a cap, that is, is preventing infiltration of precipitation through the buried wastes or the subsurface waste.

MS. STEWART: My comment on the whole Group 2 is this seems -- to even consider it seems premature. We're kind of putting the cart before the horse. We're making decisions now on how the soils are going to be dealt with when no decision has been made and how the building is going to be dealt with. It seems to me the logical thing to do is to decide what's to be done with the building, probably on a case-by-case basis. What are we going to do with 603? Are we going to tear it down? Cap it over? Take the pieces away, whatever? And then having made that decision, we'll have -- we can say, "What are we going to do about the soils?"

It's not clear that even if the building is dismantled completely and taken away, that all buildings will be dealt with -- the soil will be dealt with in the same way. So, if I were doing it, I would just strike Group 2 from the plan entirely because, in fact, no decision has been made. You're saying that when some other decision was made, we're going to apply this decision we've

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made now. That doesn't make any sense.

MR. JENKINS: I guess my answer for that is, you're correct, in that this is one that we have struggled with. How do you make a decision, a cleanup decision, that you can't implement until some other program has done their part? And we've struggled with that.

AUDIENCE MEMBER: You don't.

MR. JENKINS: We're struggling with that.

MR. RAUNING: And also we know it's a release and we can't ignore it, so we need to formally keep it into the CERCLA process so it does get dealt with and doesn't get lost in the shuffle. So it's a way to make sure that the site is addressed eventually.

MR. RENO: And then the real crazy option, of course, especially for a site that is underneath the dry fuel storage area, say, we'll move the building right now so we can go after it. Of course, that's -- and probably not the smart way to do business either, but your comment is noted, and we appreciate you --

MS. STEWART: The alternative is the No Action Alternative because no action is going to be

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done as a result of this decision. I mean, if we accept the recommended alternative, what is going to happen? The answer is, absolutely nothing until some other things happen. And if we tear the building down, haul it away, it's not clear that digging up the soil is the right thing. Maybe entombing it and capping it is the right thing. That's not clear. They're related items. You can't make a decision like that. So we're making decisions which could be wrong decisions.

MR. RENO: We do have mechanisms in the future for amending the Record of Decision or issuing an explanation of significant difference, but I'm not disagreeing with your comments.

MS. STEWART: I would recommend on Group 2, giving it, to accept the No Action Alternative and that would be --

MR. RENO: We need to defer to the decision, I think, is what you recommend.

MS. STEWART: That is the fact of what it is. Then when one decides how to dispose of the building, then the soils --

MR. JENKINS: Then pick it up again.

MR. RAUNING: I just want to clarify that we wouldn't call it a No Action because a

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No Action means we don't have a risk there, and this still could present a risk.

DR. RICKARDS: I unfortunately have to go to a hog meeting, Erik. Are you still following the agenda?

MR. SIMPSON: What is a hog meeting?

DR. RICKARDS: One's coming to Twin so I have to go. But in terms of the scoping meeting, I do want to thank you all for coming to Twin. The crowds, nobody comes to anything.

But at any rate, the Nevada study -- you talked about studying the mobility of plutonium and everything. In what terms -- the only reporter I got to ask you-all about, that was Tim Jackson, and the comments might have been from Alan Jines, is that it's different. The plutonium down there was different, therefore it doesn't count.

That is always why they have said they can rebury the plutonium to bind with clay. In the Nevada study, it was bound to the clay and submicron particles floating in sediment in the water. So to me, it fits every principle you've ever said. It does bind to clay. To me it's proof that it is mobile, proof that we shouldn't bury it.

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So one of the things -- I'll give you your answer in a second -- but to make sure my scoping questions are officially in, is the individual effects of individual particles, these materials resuspended, all of the radionuclides, but the CDC group that I'm in definitely doesn't appreciate the inhalation, even a single particle to the doctors that come to present their information to us. And, basically to, one, study that on the impact of your results because, I mean, basically, it seems to me they are picking it up, moving it to a new location in the soil or leaving it where it is, and since your alternatives are the same, it's probably better just to leave it where it is. But at any rate, what are your comments on the Nevada study?

MR. RENO: I guess they were not specific to that study, but more how contaminates and transport issues are related to our Tank Farm investigation. We will look at that study. There is also some other work that's being done by Clemson, which indicates that under some conditions facilitated transport of plutonium may occur. That is mode of transport. And that under some conditions plutonium may be moving a little bit

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faster in some places than others.

Now, the conditions at the Chem Plant are very different than those at the RWMC. They are examining that problem in our case. We have a waste stream that was dissolved in concentrated acids. There were several other metals involved and how the interaction of these low PHs and the other constituents that were present, the site specific pathology at the Chem Plant interplays is the question we're going to answer.

We're proposing the Chem Plant put in a large number of blow holes to try to develop a 3-D picture of the contamination on the Tank Farm. We're proposing to put in monitoring wells closer to those releases than ever before and to sample down below this waste and actually go through some of the hotter stuff, if we can, at the Chem Plant and to get concentrations, plutonium and other isotopes, at depth.

So we're going to look at this real-world experiment from 1952 when plutonium was first released at the Tank Farm to see how far it has gone. This whole investigation of the Tank Farm has been like peeling an onion. It's dangerous stuff there. We think the soils there

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are as high as 400 REM per hour. If they are that high, then a worker would expose -- the drill cuttings from that could exceed their institutional dose limit in 13 and a half seconds. So we don't take this lightly in going in there. There is a lot of safety issues that we will have to resolve before we do the investigation. Just a moment.

DR. RICKARDS: 400 rem per -- I wanted the unit.

MR. JENKINS: Per hour.

DR. RICKARDS: I didn't mean to interrupt you.

MR. RENO: I try to maintain my kind of thought so I know you're going to be interested in this.

Then we're proposing to do some laboratory studies to determine plutonium migration rates. We're going to look at the chemical -- the goechemical environment in the Tank Farm. You know, what chemical form for oxidation state is the plutonium in and the other isotopes. We're going to do column studies. We're going to do batch studies, and we're going to answer this question once and for all. That is our goal. How fast are

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these isotopes moving and how fast do we decide how to manage it?

DR. RICKARDS: I notice that you were looking in at least one of these things at 1000 years, that is what they look for in Pit 9, right?

MR. RENO: A thousand years of what? For a cap?

DR. RICKARDS: Yeah.

MR. RENO: That number is only because -- I mean, how do you design anything to last longer than that? That's the question. At a minimum of 1000 years is the goal.

DR. RICKARDS: But that is the trouble with the plutonium. I mean, when you take it above 100 nanocuries, they are having to prove a 10,000-year institutional life. And the more it leaks out, the more it meets your ability to leave that thousand-year estimate. That is where I think the EPA has to step in and say it's inappropriate to have low-level standards in this large a quantity. If you're dealing with this much waste, 10 nanocurie standard is fine. If you're dealing with billions and billions of these particles and slipping them in under the 100-nanocurie standards, it's inappropriate to look at the thousand years, I

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think, and inappropriate not to look at the effect of releasing billions of those to our water supply to be brought up and inhaled.

Literally, I think that you can put more plutonium in Idaho through those standards than you can in New Mexico because they have a 6-million cubic feet limit.

Anyhow, good to see you-all.

MR. SIMPSON: Margaret or David, did you have any questions about the aquifer contamination at all?

AUDIENCE MEMBER: I had a question about drinking water standards, a little bit of clarification on where the drinking water standards are to be met. Are they to be met at the source or the INEEL boundary?

MR. JENKINS: I'll tackle that one. What we're looking at, as far as the aquifer, is to restore the entire aquifer drinking water standards by 2095. That, essentially, means anywhere within the aquifer. There is still discussion on whether that includes the area underneath Chem Plant proper or not. And that is a decision that we will memorialize at some point in the Record of Decision.

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AUDIENCE MEMBER: So it's not at the source or at the boundary?

MR. JENKINS: It's throughout.

MR. JAMES: At least up through the Chem Plant boundary is as far as it will go away from the source.

The problem lies, I think, in some of the very immobile things that went down in the injection well or stuck right there. And being immobile, they are hard for us to go and get back. So the least we'll do is meet it at the Chem Plant.

MR. JENKINS: Yes.

MR. RENO: Based on a point of compliance at the Chem Plant boundary, but it also looked at peak concentrations within the aquifer.

MR. JAMES: Right. The high concentrations of the mobile constituents may be moving, for example, the iodine and tritium.

MR. JENKINS: The only constituent that is of a concern, long term underneath the Chem Plant proper is the little amount of mercury that was pumped down in the injection well when it was used. In the case of the other constituents of concern, the tritium, it will decay away. The strontium, if we take a few actions we can make it

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go away. The iodine, the actual hot spot, is south of the Chem Plant, anyway, so that's what I meant by that.

AUDIENCE MEMBER: I have a little problem with the iodine. So you're saying even though it's beyond the boundary of the Chem Plant right now, the hot spot...

MR. JENKINS: Yes. We're still going to restore that iodine. We're still going to restore the aquifer even though it's outside the Chem Plant fence because it was a release from the Chem Plant.

AUDIENCE MEMBER: Mercury is the only other one.

MR. JENKINS: We know there was mercury pumped down there. And when they closed the injection well, they took one sample out of there, and it did have trace quantities of mercury in it. We believe, based on the modeling and how mercury travels in the environment, it's probably isolated, maybe within a couple feet of the injection well, anyway.

MR. RAUNING: Trace quantities?

MR. JENKINS: I think it was two times the drinking water standard, about two to three

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times the MCL that was pumped down there.

MR. RENO: There was a one-time incident, it was couple pounds at one time.

AUDIENCE MEMBER: So if it's a couple pounds, it gets you mercury?

MR. RENO: Yeah, right.

AUDIENCE MEMBER: That was my only other question.

MR. SIMPSON: Did you have any other issues or concerns that you want us to go through as far as -- I know you guys were here early during the workshop. Do you want us to go through any of these other slides for you?

MR. JAMES: You folks had two questions that I couldn't answer. One was the one that Matt handled about CERCLA and NEPA equivalency. And the other one I can't recall. I know we talked about --

AUDIENCE MEMBER: That was my question.

MR. JAMES: We did talk about, also, the reason the Tank Farm is being closed under the EIS, the fact that it's an existing facility and the tanks haven't leaked, so it's not really CERCLA. It deals with releases or risks of releases. To the best of knowledge, the tanks themselves haven't

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had any leaks or risks. So they are operational facilities. That is why they are involved in the NEPA process.

MR. SIMPSON: Is this format working well for you guys?

AUDIENCE MEMBER: Yes. We informally discussed it. I would like to make a couple comments for the record. Regarding the soil repository, which has some name I've forgotten.

MR. RAUNING: ICDF.

INEEL STAFF: It is my understanding -- I just want to make this for the record that this is a permanent solution forever. That there will be a cap or a liner at the bottom and it will be properly capped and contaminated soils will be placed there, initially, in the old percolation ponds. And we believe that will be safe for a thousand-plus years.

It is also my understanding, aside from contaminated soil, that other things will go in some of the soil including concrete from breaking up buildings, contaminated equipment, and contaminated structures broken up into bite-size pieces. So that is the intent of that disposal site to probably the majority of things will be

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contaminated. The volume will be contaminated soil, but, in particular, if the choice is to tear buildings down, then certainly the debris from those buildings, some or all of it is candidate to go in there. Some cannot go there because of too-high levels of radioactivity to some other place.

So the ICDF -- that's what it is -- is a generalized disposal facilities. It's also my understanding that it is a centralized facility for other clean up areas, Test Area North in particular, and anything else that does produce soils or debris will go there. They will not have their own separate repositories. That largely is due to economic arguments.

I wanted to make that for the record.

MR. WILKENING: I do work at the Test Area North Site, and MY proposed plan will be out shortly on that. We have a limited volume of soil that we're going to have to deal with out of that site that we will excavate and store on the INEEL.

It is, indeed, if this is built, this would be a likely candidate for disposal of that soil. We have talked to the folks at the RWMC, and they do, indeed, have -- since we have such a low

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quantity of soil, they do, indeed, have room for our soil as well. So, our particular action at TAN is not contingent on the construction of this facility.

MR. JAMES: It's also true that the existence of the facility will not be a carte blanche for hog and haul disposal. Every outside WAG 3 source will have to be authorized by their individual ROD to use that facility.

MR. RAUNING: And it's only CERCLA waste through the CERCLA clean up.

AUDIENCE MEMBER: When you say "outside source," do you mean outside --

MR. JAMES: Bob, outside of WAG 3.

MR. RENO: But within the INEEL. There is no off-site waste.

AUDIENCE MEMBER: Again, you made the point that there will not be waste brought in from outside of INEEL to go in under any circumstances.

MR. JENKINS: Absolutely not.

MR. RENO: If there was to be a permanent facility in the future, that would be done outside the purview of this process. And it, again, would need to go out for some type of public involvement.

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AUDIENCE MEMBER: At present there is no proposal?

MR. RENO: No, there is no proposal for any additional. We can't absolutely rule out someday in the future somebody may come from the state of Idaho with a permit application to say that we want to build a facility for X type of waste.

MR. JENKINS: It would have to be dealt with on its own.

MR. WILKENING: Right.

AUDIENCE MEMBER: On Group 4, the perched water -- thank you very much for clearing up a lot of that for me. That was pretty foggy in terms of what that was all about. I know it's very complicated.

I noticed some new information that was in your handout that wasn't in the document, is the source of recharged water to the perched water, 67 percent percolation pond, the plan is to get rid of them, and 24 percent from the Big Lost River, and that is in rain and snow, 6 percent. It seems to me that says the chances of doing something with the Lost River are pretty high because it is a quarter of the recharge. And so I would point that

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out that --
MR. RENO: I think that we would agree with that.
AUDIENCE MEMBER: The document says that dealing with the Lost River, which is in Phase 2 is just a probability, but it appears I would say that that is almost an uncertainty, but it looks like it would be quite effective, if you could stop it from raining and snowing it would help a little bit. So that is an observation.
Group 6, the gas cylinders, there is no doubt in my mind that Alternative 2, dig it up and do the right thing, is still the only thing that should be done. I'm, of course, appalled that gas cylinders were buried to begin with. I know a little bit about that business and why didn't you take the gas cylinders and ship them back to the manufacturer and pick up your five cent per bottle rebate. But that's history. Anyway, let's fix the mistake 100 percent, which, very interesting, is the least expensive approach.
MR. JENKINS: I want to point out one thing on there.
AUDIENCE MEMBER: That is history.
MR. JENKINS: I was going to try to

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explain part of the reason that shows up so much less costly than, say, No Action. What the No Action involves is, it basically has 100 years of institutional controls and monitoring and all those.
You got small costs spread over a long time, which adds up to a significant -- lots of money versus a couple-year project, you go take care of the problem and it's gone.
MR. RAUNING: That industrial gas site, too, I think one of reasons that it happened in the first place was it wasn't like the Department of Energy or Atomic Energy Commission or whoever it was at the time that said, "Oh, yeah, you can do that." It was just the subcontractor that finished construction, went out and did it, and nobody stopped him.
AUDIENCE MEMBER: But that is water over the damn into the aquifer.
Finally, on Group 7 on this whole tank, I'm pleased to see that the solution is to dig it up, dispose of the tank, dispose of the contents of the tank and the sludge and do that. And what is the time schedule on that, fairly roughly?
MR. JENKINS: We would have that one

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cleaned up by, probably, 2006, by no later than 2006 to 2008.
AUDIENCE MEMBER: But that would be well before any substantive action taken on the main Tank Farm?
MR. JENKINS: Yes.
AUDIENCE MEMBER: I like the removal option because it's kind of a prototype or a pilot of what can be done with the Tank Farm, but you will certainly learn some things pro and con.
And I commend you for recommending that. And its goes well for possibly that solution being a reasonable one for the Tank Farm would be my personal choice at this point. So that's all of my comments and whining. Do you have any more?
AUDIENCE MEMBER: Dave covered most of them. I just really, really want to emphasize one of the things that David emphasized was the fact that I don't want to see an interim action on the Tank Farms get so far -- I don't want it to get past the point of no return where you put so much time and so much money into this action that it becomes the final solution when it really shouldn't be the final solution.
Because no matter what happens to the

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entire site, there is going to be a tremendous amount of waste remaining over our aquifer, even when it's called clean up, cleaned up, and that also is a great worry. So I always come back to that, where are we when we get there?
MR. RENO: I think as long as the Tank Farm contamination is as severe as we understand it to be, unless we find out there is some radically different information there, and as long as there is a Federal Facility Agreement, but the Tank Farm will receive some additional work under a subsequent Record of Decision, a final Record of Decision.
MR. JENKINS: I guess what I would say is we will give it an objective evaluation.

OFFICIAL PUBLIC COMMENT

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MR. SIMPSON: For the sake of process, we have to have an official comment period session. Would you guys like to make a comment for the record, so to speak, so that the agencies will respond to your comment in the Responsiveness Summary?

AUDIENCE MEMBER: I thought that's what we were doing?

MR. SIMPSON: We can go through the transcript and pull out your comments and respond to them, if that's okay with you?

AUDIENCE MEMBER: I think that would make sense. It's been kind of an informal session and a lot of it I've gotten a satisfactory response on a lot of them.

MR. RAUNING: We may have some of the responses already written for you.

If you think of something else, fill in the form in the back.

MR. RENO: There were very good comments and very constructive comments, and those types of comments are always welcome.

AUDIENCE MEMBER: This seems like the most successful kind of set-up so far. I know you can't do it with a room full of people, but for

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this crowd.

MR. SIMPSON: It makes more sense than doing a formalized presentation. I think you get better interaction when you're talking to us directly in a round table session.

AUDIENCE MEMBER: We have read this in detail so it's not new.

MR. JENKINS: I hope we answered your questions.

AUDIENCE MEMBER: You did very much. The formal session was very good. It isn't easy. I just -- the whole business with the injection well and all that stuff that you gave was very, very useful. Now I understand. Frankly, I really didn't understand it.

MR. SIMPSON: I just wanted to remind you that the comment period is open until December 22nd. We would be willing to do a briefing if you guys have some questions during your further review of the documents. You can call me. I can leave my number after this, but we would be willing to do a briefing if you want more information.

AUDIENCE MEMBER: We may take you up on that to answer specific questions, if we can think

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of any.

MR. SIMPSON: Thanks for your involvement. We appreciate it.

MR. RAUNING: It takes a lot of time and energy to do what you're doing. We're glad that you're here.

(Meeting concluded at 8:45 p.m.)

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STATE OF IDAHO)
) ss.
County of Ada)

I, NANCY SCHWARTZ, a Notary Public in and for the State of Idaho, do hereby certify:

That said hearing was taken down by me in shorthand at the time and place therein named and thereafter reduced to computer type, and that the foregoing transcript contains a true and correct record of the said hearing, all done to the best of my skill and ability.

I further certify that I have no interest in the event of the action.

WITNESS my hand and seal this 30th day of December, 1998.

Nancy Schwartz, Notary Public in and for the State of Idaho

My commission expires:
September 28, 1999

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